UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
ALASKA OPERATIONS OFFICE
Room 537, Federal Building
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Anchorage, AK 99513-7588

June 12, 2006

Reply To
Office Of: AOO-A

Colonel Timothy J. Gallagher, District Engineer
U.S. Army Corps of Engineers, Alaska District
P.O. Box 898
Anchorage, AK 99506-0898
Reference Number 2006-597-2

Dear Colonel Gallagher:

Thank you for the opportunity to comment on the proposed Juneau Access Improvements Project, Reference Number 2006-597-2. Our comments are organized as follows. This cover letter addresses aquatic resources of national importance, consistent with the 1992 Memorandum of Agreement (MOA) between the Environmental Protection Agency (EPA) and the Department of the Army (DA), pursuant to Section 404(q) of the Clean Water Act. The attachment to this letter includes three parts that address the avoidance, minimization, and compensatory mitigation sequence, respectively, as agreed to in the 1990 MOA between DA and EPA, pursuant to the Clean Water Act Section 404(b)(1) Guidelines (hereinafter referred to as "the Guidelines").

The Alaska Department of Transportation and Public Facilities proposes to improve surface transportation to and from Juneau, Alaska by building a 50.8 mile two lane highway from the end of Glacier Highway near Echo Cove, around Berners Bay, and along the eastern shore of Lynn Canal to a new ferry terminal north of the Katzehin River delta. The proposal would result in direct impacts to approximately 258 acres of the aquatic environment, including 70 acres of wetlands, 36 acres of intertidal and shallow subtidal habitat, 2.2 acres of streams, and 150 acres of deep subtidal habitat. Approximately 2,942,900 cubic yards of fill material will be discharged into waters of the United States. The proposed highway may have substantial adverse effects on aquatic resources within the Berners Bay Land Use Designation II (LUD II) Management Area. This special area designation by Congress underscores the national importance of this area. Berners Bay and the surrounding LUD II Management Area include a rich array of aquatic resources and special aquatic sites that would be impacted by the proposed project.

EPA is concerned about the adverse effects of the proposed discharge on special aquatic sites, including wetlands. We believe the proposed discharge may cause or contribute to significant degradation of waters of the United States. Moreover, based upon the information available, there may be one or more practicable alternatives to the proposed discharge which would have less adverse impact on the aquatic ecosystem. Accordingly, EPA has determined

that the proposed project *may* result in substantial and unacceptable impacts to aquatic resources of national importance.

EPA's opinion in this case is based upon the attached facts and preliminary findings. Please refer to this attachment for EPA's detailed comments on the proposed project. As always, EPA is committed to resolving these issues consistent with the process and timelines specified in the 1992 MOA. Please call me at (907) 271-6555 if you have any questions, or have your project manager call Chris Meade at (907) 586-7622.

Sincerely,

Marcia Combes
Director, Alaska Operations Office

Attachment

cc: Reuben Yost, ADOT&PF
Tim Haugh, FHwA
Jeffrey Koschak, Project Manager

ATTACHMENT

EPA Comments on the Juneau Access Improvements Project

Part 1: Avoidance

Least Environmentally Damaging Practicable Alternative

The Guidelines require that no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem (40 CFR 230.10(a)). The Guidelines also include a rebuttable presumption, as follows: if the activity associated with a proposed discharge into a special aquatic site is not water dependent, then practicable alternatives that do not involve special aquatic sites are presumed to be available, unless clearly demonstrated otherwise (40 CFR § 230.10(a)(3)). The proposed Katzehin ferry terminal and associated ferries are water dependent activities. The proposed road from Echo Cove to the Katzehin ferry terminal, which includes the discharge of fill material into special aquatic sites, is not water dependent. The applicant's Draft Section 404(b) (1) Analysis (FEIS, Appendix X, Part B) misinterprets and misapplies the Guidelines, and thus, it does not clearly demonstrate that there are no practicable alternatives to the proposed road. Therefore, there is insufficient information at this time to nullify the presumption that practicable alternatives to the proposed road are available.

The term *practicable* means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes (40 CFR § 230.3(q)). An alternative must be capable of achieving the basic purpose of the proposed activity to be deemed practicable (45 FR 85339). The basic purpose test is not a matter of which alternative best meets the project purpose, but rather, it is a question of which alternatives to the proposed project are also able to meet the overall purpose.

According to the DA public notice, the applicant's stated purpose is to "provide improved surface transportation to and from Juneau within the Lynn Canal corridor that will provide the capacity to meet the transportation demand in the corridor, provide flexibility and improve opportunity for travel, reduce travel time between the Lynn Canal communities of Juneau, Haines, and Skagway, reduce state and user costs for transportation in the corridor" [sic]. As stated in the FEIS, "The project Purpose and Need Statement has been subdivided into these five elements for clarity and to help evaluate the ability of project alternatives to meet or approach the overall goal of improving surface transportation to and from Juneau in the Lynn Canal corridor" (FEIS, page 1-8). Thus, the proposed purpose statement includes an overall goal and five evaluation elements related to capacity, flexibility, travel time, state costs and user costs.

Within the context of the Guidelines, EPA concurs with the applicant's statement of the overall project purpose (i.e., improve surface transportation to and from Juneau within the Lynn Canal corridor). We also concur with the evaluation elements related to capacity, flexibility and travel time because they are central to the underlying transportation problems that the applicant is trying to solve. However, EPA does not concur with including the evaluation elements related to reducing state costs and user costs in the purpose statement. It is important to note that EPA

raised this issue early in the planning process (see DEIS, page 2-1). Subsequent negotiations between EPA and the lead agency did not resolve the issue.

EPA's rationale for excluding state costs and user costs from the purpose statement is as follows. The Guidelines require DA to examine practicable alternatives to the proposed discharge (40 CFR §§ 230.5(c) and 230.10(a)). To determine whether an alternative is practicable, the Guidelines also require DA to consider cost in light of overall project purposes. Thus, within the context and meaning of the Guidelines, the appropriate place to consider cost is in the alternatives analysis, not in the purpose statement.

In general, including cost in the purpose statement may result in bypassing the required alternatives analysis and cost analysis by ruling out rigorous evaluation of otherwise practicable alternatives because they do not meet the project purpose. This is tantamount to "reverse engineering" (i.e., frontloading the solution to a problem by constraining the purpose statement so that the proposed project is the only alternative capable of achieving the constrained purpose). Allowing this practice would circumvent the intent of the Guidelines and would render the alternatives analysis, which is the heart of the Guidelines, as a meaningless paper exercise.

In this specific case, including state costs and user costs in the purpose statement biases the decision in favor of the proposed project due to the way the federal and state governments finance public transportation projects. The federal government pays for most capital costs, whereas the state government and transportation users pay for most maintenance and operating costs. Consequently, conditioning the overall purpose on reducing state and user costs tilts the playing field towards the proposed project because roads generally have higher capital costs and lower maintenance and operating costs, whereas ferries generally have lower capital costs and higher maintenance and operating costs. The Guidelines level this uneven playing field by considering cost per se in the alternatives analysis, regardless of who pays for those costs.

In light of EPA's restatement of the overall project purposes above, we offer the following observations on the evaluation elements related to capacity, flexibility and travel time. Based on the forecast summer demand (summer average daily traffic) in the year 2038 and the summer capacity from Juneau to Haines and Skagway (vehicles per day) in 2038, all of the action alternatives in the FEIS would provide sufficient capacity to meet transportation demand in the corridor (see FEIS Tables 4-9, 4-27, 4-42 and 4-56). Compared to the no action alternative (i.e., action alternative summer capacity in 2038 ÷ no action alternative summer capacity in 2038 × 100), the action alternatives would increase summer capacity by the following percentages: 2B (764%), 3 (604%), 4A (271%), 4B (306%), 4C (181%) and 4D (246%). Therefore, all of the action alternatives meet the capacity element of the overall purpose.

Regarding flexibility, all of the action alternatives improve the opportunity for travel in terms of the combined number of ferry round trips per week from Juneau to Haines and Skagway in the summer. Compared to the no action alternative (i.e., action alternative # of round trips ÷ no action alternative # of round trips × 100), the action alternatives would increase the opportunity for travel by the following percentages: 2B (653%), 3 (840%), 4A (213%), 4B (307%), 4C (120%) and 4D (213%). Therefore, all of the action alternatives meet the flexibility element of the overall purpose.

As for travel time, none of the marine alternatives meets this evaluation element. However, the analysis of Alternatives 2B and 3 is complicated by several factors. First and foremost, unlike the no action and marine alternatives, which would use a ferry reservation system, Alternatives 2B and 3 would use a first come-first serve ferry system. The FEIS estimates travel time for these two alternatives based on the unrealistic assumption that all vehicles would arrive at the ferry terminal just in time for loading, and thus, that there would be no waiting time or delay prior to loading. This assumption represents the best case scenario. The worst case scenario (i.e., travelers arrive immediately after departure) would result in significant delays (e.g., a 1.5 hour wait for the Katzehin to Haines shuttle, and a 2.5 hour wait for the Katzehin to Skagway shuttle). This would actually increase travel time relative to the fast vehicle ferry under the no action alternative. Second, the FEIS estimates travel time for Alternative 2B based on an average highway speed of 45 miles per hour. This is a reasonable assumption for summer travel, but it may not be realistic for winter travel, especially during icy or snowy conditions. Third, travel time under Alternative 2B would increase during the estimated 34 days per year when the highway would be closed due to avalanches. Fourth, Alternative 3 would reduce travel time to Haines, but increase travel time to Skagway. Fifth, for international travelers, travel time would still be limited by the operating hours of the U.S. and Canadian customs offices. After business hours, Alternatives 2B and 3 would not reduce travel time between Juneau and Whitehorse, or Juneau and Haines Junction. The upshot of all these confounding factors is that Alternatives 2B and 3 partially meet this evaluation element under some circumstances, and partially do not meet this element under other circumstances.

Based on the information in the FEIS and EPA's observations above, all of the action alternatives are capable of achieving the overall purpose of improving transportation to and from Juneau, albeit to varying degrees. The proposed project and Alternative 3 fully meet the evaluation elements for capacity and flexibility, and they both partially decrease and partially increase travel time. All of the marine alternatives fully meet the capacity and flexibility elements, but none of them meet the travel time element. DA's analysis and determination of practicable alternatives depends in large part upon how much weight is given to each of these three evaluation elements. EPA recommends that DA clearly articulate its rationale for determining which of the action alternatives pass the basic purpose test.

Next, we turn to cost, existing technology, and logistics. There is nothing in the administrative record to suggest that technology or logistics are limiting factors in this case. Although all of the action alternatives pose some technological and logistical challenges, none of these challenges appear to be insurmountable. The applicant has a proven track record of building and operating roads and ferries throughout Alaska, quite often in difficult terrain and under inclement weather conditions. Hence, this part of the analysis hinges on cost.

The intent of the Guidelines is to consider whether an alternative is reasonable in terms of the overall scope and cost of the proposed project (45 FR 85339), or conversely, whether an alternative is unreasonably expensive (45 FR 85343). For construction projects, including transportation projects, it is appropriate to consider the total construction cost of the build alternatives (i.e., capital costs). However, it is not appropriate to consider maintenance and operating costs or long term costs over the life cycle of the project (i.e., life cycle costs). Nor is it appropriate to consider who pays for the cost of building a project (e.g., state costs or user

costs) for the reasons stated above. Also note that the 404(b) (1) cost analysis is not an economic analysis (45 FR 85339). Thus, it is inappropriate to consider net present value or benefit-cost ratios, as these are essentially economic evaluations. However, we acknowledge that DA may consider economics as part of DA's public interest review under 33 CFR § 320.4(q).

When expressed as a percentage of the proposed project capital costs (i.e., alternative project capital cost ÷ proposed project capital cost × 100), the other action alternatives yield the following percentages: 3 (104%), 4A (51%), 4B (55%), 4C (43%) and 4D (40%). In light of the overall scope and cost of the proposed project, the cost of each of the alternatives to the proposed project is reasonable. Therefore, if DA determines that any of the other action alternatives are capable of achieving the basic project purpose, then any such alternative is also practicable.

With respect to aquatic impacts, the applicant's Draft Section 404(b) (1) Analysis (FEIS, Appendix X, Part B) states that:

- "The No Action Alternative is the least environmentally damaging of all the alternatives" (see page X-100);
- "Alternative 2B would have greater environmental impacts than the No Action and marine alternatives" (see page X-107);
- "Alternative 3 is more damaging to the aquatic environment than Alternative 2B" (see page X-109);
- "Alternative[s] 4A and 4C are more environmentally damaging than the No Action Alternative but less damaging than the other reasonable alternatives" (see page X-101); and
- "Alternatives 4B and 4D would have less environmental impacts in terms of acres of wetlands, marine waters, and upland habitat lost than would Alternative 2B. In terms of importance and quality of aquatic habitat, comments from both the NMFS and USEPA indicated that Alternative 4B and 4D would have greater aquatic impacts than Alternative 2B." (see page X-103)

EPA generally agrees with these findings, with the following exception. The applicant's proposed conservation measures for Alternatives 4B and 4D would allay EPA's concern about potential impacts on herring spawning in Berners Bay. Alternatives 4B and 4D include ferry service from Berners Bay in the summer and from Auke Bay in the winter. To avoid impacts on herring spawning, ferry operations in Berners Bay would not begin until after the herring spawning period (see FEIS, Appendix W, page W-225). The same conservation measures could be applied to Alternative 3 (i.e., ferry service from Berners Bay year round, except ferry service from Auke Bay during the 2-3 week herring spawning period). Under this scenario, Alternative 3 is clearly less damaging to the aquatic ecosystem than Alternative 2B (see FEIS, Table S-1, page S-20, and Appendix X, Table 1, X-98).

Based on the FEIS, the applicant's Draft Section 404(b)(1) Analysis and EPA's clarification above, the relative ranking of the FEIS alternatives, from the least to the most adverse impact on the aquatic ecosystem, is as follows: 1, 4A/4C, 4B/4D, 3, 2B. Therefore, if DA determines that any of the other action alternatives are practicable, then the proposed

disposal sites for the discharge of dredged or fill material must be specified as failing to comply with the requirements of the Guidelines (40 CFR § 230.12(a) (3) (i)).

For the reasons stated above, EPA recommends that DA restate the project purpose by excluding any reference to state costs and user costs. We also recommend that DA perform an independent evaluation of whether any of the action alternatives in the FEIS, or any combination or variation thereof, are practicable and less damaging. It is important to note that DA's 404(b)(1) evaluation may or may not reach the same conclusion as the applicant's Draft 404(b)(1) Analysis (also note that EPA is not prejudging the outcome, nor are we asking DA to reach a particular decision).

Part 2: Minimization

The Guidelines require that no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem (40 CFR § 230.10(d)). Chapter 5 of the FEIS describes proposed mitigation and commitments, including numerous measures to minimize environmental impacts. Likewise, the DA public notice refers to a six page mitigation plan titled, "Mitigation Commitments Relevant to Section 404 of the Clean Water Act." The mitigation plan includes approximately four pages of minimization measures to reduce impacts to water quality, wetlands, intertidal and subtidal areas, anadromous streams, and fish and wildlife. EPA commends the applicant for these mitigation commitments, and we recommend that DA incorporate these minimization measures by reference as a special condition of the 404 permit.

EPA also recommends that DA require additional steps to minimize the significant adverse effects of the proposed project to acceptable levels. More specifically, we recommend that DA consider requiring the following actions, in priority order:

1. Replace the proposed road fill between the Antler River and the Lace River with a causeway on pilings.
2. If #1 above is not practicable, then extend the proposed bridges for the Antler and Lace Rivers so as to avoid placing any fill material in any adjacent wetlands.
3. Install one additional wildlife underpass at the most appropriate location between the proposed Katzehin River bridge and the proposed Katzehin ferry terminal.

EPA also recommends that DA require an alternative solution to the proposed discharge of 1,400,000 cubic yards of waste rock into Lynn Canal. The discharge of excess rock is not essential to fulfill the basic purpose of the proposed project. In fact, it serves no useful purpose other than waste disposal. The applicant should work with the communities of Juneau, Haines and Skagway to develop a beneficial use for this valuable resource instead of wasting it. Doing so would have the added environmental benefit of avoiding and minimizing future potential impacts caused by developing numerous rock pits in the three communities.

Part 3: Compensation

Despite the applicant's good faith efforts to minimize aquatic impacts, the proposed project would still result in substantial unavoidable impacts, as described above. The proposed mitigation plan includes a one page description of compensatory mitigation measures including: 1) a wildlife underpass to compensate for the loss of 70 acres of wetlands; and 2) and an in lieu fee of $780,000 to compensate for the loss of 32 acres of intertidal and shallow subtidal habitat. The proposed mitigation plan does not include any compensation for dredging at the Katzehin ferry terminal and the consequent loss of 4.4 acres of intertidal and shallow subtidal habitat (which would be converted to less productive deep subtidal habitat). Nor does it include any compensation for the proposed discharge of 1,400,000 cubic yards of fill material into approximately 150 acres of deep subtidal habitat.

EPA supports the applicant's in lieu fee proposal to compensate for the loss of 32 acres of aquatic resources. We also support the proposed priority list for the use of the in lieu fees, with one exception. Although EPA asked the applicant to consider the Pullen Creek restoration project in the past, that project has changed over time. The only unfunded work left involves installing a lift station and replacing a sewer line as a prerequisite to fixing the fish passage problem at the Pullen Creek culvert. We question the appropriateness of using in lieu fees for this purpose as it does not appear to be consistent with federal guidance. Therefore, we propose adjusting the priority list for the use of the in lieu fees by replacing the Pullen Creek project with the Strawberry Creek fen preservation project.

As for the proposed wildlife underpass, EPA supports the use of wildlife underpasses and overpasses to avoid and minimize the adverse effects of roads on wildlife. However, we object to granting compensatory mitigation credits for building an underpass to compensate for the loss of 70 acres of wetlands. The proposed wildlife underpass would avoid the direct effect of filling one wildlife travel corridor. It may also decrease the adverse effects of filling nearby wildlife trails by providing wildlife an alternative means of crossing the road. In any case, it would not compensate for all of the functions and values of the wetlands lost. Therefore, if an underpass is practicable (and it appears that it is), then it is inappropriate to claim compensatory mitigation credits for building it because such actions to avoid and minimize adverse effects are required by 40 CFR § 230.10(a), (c) and (d).

EPA recommends that DA require the applicant to revise the proposed mitigation plan to compensate for the loss of 70 acres of wetlands by contributing an additional in lieu fee. We also recommend that DA require a 2:1 compensation ratio because: 1) the wetlands lost provide important ecological functions and the secondary effects are significant, especially in the Berners Bay area; 2) there are no practicable on site, in kind restoration, enhancement or creation opportunities, and preservation would still result in a net loss of wetlands; and 3) the acreage, functions and values of the wetlands preserved would not be known until after permit issuance, and thus, there is some uncertainty as to the quantity and quality of those wetlands.

To resolve this matter quickly, EPA proposes that DA require an additional in lieu fee payment of $440,000 for the following reasons. First, it would provide a reasonable assurance of achieving 2:1 compensation (i.e., $440,000 ÷ 2 = $220,000; $220,000 ÷ 70 acres = $3,143 per acre). Second, it is practicable in light of the overall cost of the proposed project (i.e., $440,000 ÷ $258 million × 100 = 0.17%). Third, the applicant proposed spending $440,000 (albeit for a wildlife underpass) to compensate for the loss of 70 acres of wetlands. If additional analysis shows that this amount is insufficient to achieve the 2:1 compensation goal, then the in lieu fee should be adjusted upward to close the gap.

Also, because the 70 acres of wetlands that would be lost are located on the Tongass National Forest, we recommend that this additional in lieu fee be used to preserve wetlands elsewhere on the Tongass National Forest. EPA is aware of several such opportunities (i.e., in-holdings with willing sellers). We suggest that the applicant and the regulatory and resource agencies convene a meeting, or a series of meetings, to explore these possibilities and negotiate a mutually acceptable in lieu fee package.

Finally, EPA also recommends that DA incorporate the revised compensatory mitigation plan by reference as a special condition of the 404 permit.